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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/743,560	12/23/2003	Akihiro Ozeki	008312-0307351	5051
909	7590	01/26/2006	EXAMINER	
PILLSBURY WINTHROP SHAW PITTMAN, LLP			BERHANU, SAMUEL	
P.O. BOX 10500			ART UNIT	PAPER NUMBER
MCLEAN, VA 22102			2838	

DATE MAILED: 01/26/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/743,560

Applicant(s)

OZEKI, AKIHIRO

Examiner

Samuel Berhanu

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 23 December 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 23 December 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 2/12/04, 5/12/04, 6/15/05, 11/03/04
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this

Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-10 and 12 are rejected under 35 U.S.C. 102(b) as being anticipated by Yamamoto et. al. (US 2001/0034569).

Regarding Claim 1, Yamamoto et al. disclose in Figure 1, an electronic apparatus which can operate by electric power supplied from a cell unit (20) that can produce electricity by chemical reaction (Fuel cells produce energy based on their internal chemical energy), comprising: a switching unit (Each electronic devices associated with switch) which can switch an operation mode between a first operation mode that makes an operation with a first power consumption amount, and a second operation mode that makes an operation with a second power consumption amount lower than the first power consumption amount supply apparatus (as shown in Figure 12, each device has different power consumption rate for different state of operations, so the power supply apparatus provides power according to their state signals or "switch position", page 10, paragraphs 0145) ; a notification unit to send a signal indicating that the operation mode is switched to the cell unit; and a control unit configured to switch

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the operation mode on the basis of a signal sent back from the cell unit in response to the signal of the notification unit ( "R" and "C" are " a notification unit " signals, when a matching signal outputted by the fuel cell unit to the controller , the controller switched to the cell unit only, please see Example 2, on Page 5)

Regarding Claim 2, Yamamoto et. al. disclose in Figure 3, wherein the notification unit notifies of switching of the operation mode to the cell unit, upon switching from the second operation mode to the first operation mode (noted that when the fuel cell power is insufficient to provide power for the electric product the commercial power supply compensate for the insufficiency which is a "second operation mode", when the notification signal, "the request signal "R", matched with the fuel cell "notification Signal "C" ", the operation switched to the cell unit which is a "first operation mode", see example 2, page 5-6 of prior art ) .

Regarding Claim 3, Yamamoto et. al. disclose in Figure 3, wherein the control unit aborts switching to the first operation mode (Cell unit), when a received signal indicates that a power supply amount from the cell unit is short upon switching to the first operation mode. (Noted that when the fuel cell power is not sufficient to operate the electric product the control stop "abort" switching to the fuel cell power supply only, instead send a signal to the commercial power supply to compensate for the insufficiency, see example 2 on Page 5).

Regarding Claim 4, Yamamoto et. al. disclose in Figure 3, an electronic apparatus system which comprises an electronic apparatus which can operate by electric power supplied from a cell unit (20) that can produce electricity by chemical reaction, the electronic apparatus comprising: a switching unit which

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can switch an operation mode between a first operation mode that makes an operation with a first power consumption amount, and a second operation mode that makes an operation with a second power consumption amount lower than the first power consumption amount (noted that the system operates according to the control signal, it goes from high power consumption amount to lower consumption amount or vice versa, Page 9, Paragraph 0134) ; and a notification unit configured to send a signal indicating that the operation mode is switched to the cell unit , the cell unit comprising: a response unit which is responsive to the signal from the notification unit to send back information based on the signal to the electronic apparatus, and the electronic apparatus further comprising: a control unit configured to switch the operation mode on the basis of the information received from the cell unit (see example 2, on Page 5).

Rearranging Claim 5, Yamamoto et. al. disclose in Figure 3, an electronic apparatus system which includes a cell unit (20) comprising a fuel cell that can produce electricity by chemical reaction, and an electronic apparatus (40-n) which can operate by electric power supplied from the cell unit, the electronic apparatus comprising: a switching unit which can switch an operation mode between a first operation mode that makes an operation with a first power consumption amount, and a second operation mode that makes an operation with a second power consumption amount lower than the first power consumption amount (noted that the system operates according to the control signal, it goes from high power consumption amount to lower consumption amount or vice versa, Page 9, Paragraph 0134) ; a notification unit a configured

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to send a signal indicating that the operation mode is switched to the cell unit; and a control unit configured to switch the operation mode on the basis of a signal sent back from the cell unit in response to the signal of the notification unit, (noted that when the fuel cell power is insufficient to provide power for the electric product the commercial power supply compensate for the insufficiency which is a "second operation mode", when the notification signal, "the request signal "R", matched with the fuel cell "notification Signal "C" ", the operation switched to the cell unit which is a "first operation mode") and the cell unit comprising: a reception unit configured to receive the signal from the notification unit; a comparison unit configured to compare (Paragraph 0014, page 1; Page 5 paragraph 0075) a power consumption amount upon operating the electronic apparatus in the operation mode after switching with output electric power that can be output from the cell unit on the basis of the signal received by the reception means; and a response unit configured to send a signal based on a comparison result of the comparison unit to the electronic apparatus.

Regarding Claim 6, Yamamoto et. al. disclose in Figure 3, wherein the response unit sends a signal that permits switching of the operation mode to the electronic apparatus (noted that when signal "R" sends to the fuel cell unit, a fuel cell provides power to the electronic product accordingly), when the comparison result of the comparison unit indicates that the output electric power of the fuel cell is larger than the power consumption amount (Page 5, Paragraph 0075).

Regarding Claim 7, Yamamoto et. al. disclose in Figure 3, wherein the cell

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unit further comprises a power control unit (30) configured to control the fuel cell to lower the output electric power, when the comparison result of the comparison unit indicates that the output electric power of the fuel cell is larger than the power consumption amount by a value beyond a predetermined value ( when the Paragraph 0021).

Regarding Claim 8, Yamamoto et. al. disclose in Figure 3, wherein the cell unit further comprises a power control unit (300) configured to control the fuel cell to raise the output electric power (when the power control apparatus send the second signal to the cell unit, the cell unit increase or decrease the power generation based on the input signal), when the comparison result of the comparison unit indicates that the power consumption amount is larger than the output electric power of the fuel cell , and the response unit sends a signal indicating that the output electric power of the fuel cell has been changed to the electronic apparatus, when the output electric power of the fuel cell has reached the power consumption amount under the control of the power control unit (see example 2, on Page 5).

Regarding Claim 9, Yamamoto et. al. disclose in Figure 3, wherein the response unit sends a signal that inhibits switching of the operation mode, when the comparison result of the comparison unit indicates that the power consumption amount is larger than rated electric power guaranteed by the fuel cell (noted that when the electronic products send signal "R", and the fuel cell signal indicates that there is insufficient power to provide, the controller control the power supply apparatus to compensate for the insufficiency).

Regarding Claim 10, Yamamoto et. al. disclose in Figure 3, a rechargeable secondary battery ( Page 2, paragraph 0017); and a power control unit (300) configured to control the fuel cell to raise the output electric power to the rated electric power, and to control the secondary battery to compensate for a difference between the power consumption amount and rated electric power, when the comparison result of the comparison unit indicates that the power consumption amount is larger than rated electric power guaranteed by the fuel cell (Page 2, Paragraphs 0015 and 0017)

Regarding Claim 12, Yamamoto et. al. disclose in Figure 3, an operation mode switching method for an electronic apparatus system which includes a cell unit (20) that can produce electricity by chemical reaction, and an electronic apparatus which has a switching unit which can switch an operation mode between a first operation mode that makes an operation with a first power consumption amount, and a second operation mode that makes an operation with a second power consumption amount lower than the first power consumption amount (noted that the system operates according to the control signal, it goes from high power consumption amount to lower consumption amount or vice versa, Page 9, Paragraph 0134), and can operate by electric power supplied from the cell unit, comprising: sending a signal indicating the operation mode is switched to the cell unit, by the electronic apparatus; comparing a power consumption amount upon operating the electronic apparatus in the operation mode after switching with output electric power that can be output from the cell unit on the basis of the signal from the electronic apparatus,



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and sending a signal based on the comparison result to the electronic apparatus, by the cell unit; and switching the operation mode on the basis of the signal sent back from the cell unit, by the electronic apparatus (noted that when the fuel cell power is insufficient to provide power for the electric product the commercial power supply compensate for the insufficiency which is a "second operation mode", when the notification signal, "the request signal "R", matched with the fuel cell "notification Signal "C" ", the operation switched to the cell unit which is a "first operation mode").

***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Yamamoto et. al. (US 2001/0034569) in view of Bonnefoy (US 5,714,874).

Regarding Claim 11, Yamamoto et. al. do not disclose explicitly, a rechargeable secondary battery; and a power control unit configured to charge the secondary battery by electric power as a difference between the output electric power of the fuel cell and the power consumption amount, when the comparison result of the comparison unit indicates that the output electric power of the fuel cell is larger than the power consumption amount by a value beyond a predetermined value. However, Bonnefoy discloses in Figure 1, a rechargeable

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secondary battery (3); and a power control unit (5a) configured to charge the secondary battery by electric power as a difference between the output electric power of the fuel cell and the power consumption amount, when the comparison result of the comparison unit (5b) indicates that the output electric power of the fuel cell is larger than the power consumption amount by a value beyond a predetermined value (Column 2, lines 20-25 and line 62 , Column 3, line 51, Column 4, lines 24-34). It would have been obvious to a person having ordinary skill in the art at the time of the invention to add a fuel cell charging means as taught by Yamamoto in order to maintain the secondary battery voltage as a desire voltage so that the battery can provide sufficient power for the device for a long period of time.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Samuel Berhanu whose telephone number is 571-272-8430. The examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Karl Easthom can be reached on 571-272-1989. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

  
KARL EASTHOM  
SUPERVISORY PATENT EXAMINER

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

SB



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SUPERVISORY PATENT EXAMINER